In The Claims

Please amend Claims 1, 4, 5, and 7-12 as follows:

Please add new Claims 20-22 as follows:

1. (Currently Amended) A unilimb breathing circuit comprising

a proximal end coupling member

a distal end coupling member

a pleated expiratory tube having a first end fixedly coupled to the proximal end coupling member, and a second end fixedly coupled to the distal end coupling member, the expiratory tube being expandable between a fully compressed rest position and a fully expanded rest position, and having a plurality of intermediate rest positions wherein the expiratory tube is capable of maintaining its rest length without the exertion of an external force, and

a pleated inspiratory tube having a first end fixedly coupled to the proximal coupling member, and a second end fixedly coupled to the distal end coupling member, the inspiratory tube being expandable between a fully compressed position and a fully expanded position, and having a plurality of intermediate rest positions wherein the inspiratory tube is capable of maintaining its rest length without the exertion of an external force,

wherein the length of the inspiratory tube is greater than the length of the expiratory tube.

2. (Previously Presented) The unilimb breathing circuit of claim 1 wherein the length of the inspiratory tube is greater than the length of the expiratory tube by between about

1 and 7 inches when each of the inspiratory and expiratory tubes are in their fully expanded positions.

3. (Original) The unilimb breathing circuit of claim 1 wherein the length of the inspiratory tube is between about 3 and 5 inches greater than the length of the expiratory tube.

4. (Currently Amended) A re-breathing type unilimb breathing circuit comprising

a proximal end coupling member having an axis

a distal end coupling member having an axis

a pleated expiratory tube having a first end fixedly coupled to the proximal end coupling member, and a second end fixedly coupled to the distal end coupling member, the expiratory tube being expandable between a fully compressed rest position and a fully expanded rest position, and having a plurality of intermediate rest positions wherein the expiratory tube is capable of maintaining its rest length without the exertion of an external force, and

a pleated inspiratory tube having a first end fixedly coupled to the proximal end coupling member, and a second end fixedly coupled to the distal end coupling member, the inspiratory tube being expandable between a fully compressed position and a fully expanded position, and having a plurality of intermediate rest positions wherein the inspiratory tube is capable of maintaining its rest length without the exertion of an external force,

wherein the distal end coupling member includes an axis containing terminus for receiving the inspiratory tube, the axis of the terminus being radially offset from the axis of the

distal end coupling member.

5. (Currently Amended) A unilimb breathing circuit comprising

a proximal end coupling member

a distal end coupling member

a pleated expiratory tube having a first end fixedly coupled to the proximal end coupling member, a second end fixedly coupled to the distal end coupling member, an inner diameter and an outer diameter, the expiratory tube being expandable between a fully compressed rest position and a fully expanded rest position, and having a plurality of intermediate rest positions wherein the expiratory tube is capable of maintaining its rest length without the exertion of an external force, and

a pleated inspiratory tube having a first end fixedly coupled to the proximal end coupling member, a second end fixedly coupled to the distal end coupling member, an inner diameter and an outer diameter, the inspiratory tube being expandable between a fully compressed position and a fully expanded position, and having a plurality of intermediate rest positions wherein the inspiratory tube is capable of maintaining its rest length without the exertion of an external force,

wherein the ratio of the outer diameter of the inspiratory tube to the inner diameter of the expiratory tube is sized to minimize flow resistence therebetween, while facilitating generally linear compressibility and expandability of the inspiratory and expiratory tubes.

6. (Original) The unilimb breathing circuit of claim 5 wherein flow resistence of the breathing circuit is such that at 60 liters/minute of flow, the pressure drop across the

circuit is no more than about 5 cm of water.

7. (Currently Amended) The unilimb breathing circuit of claim 5 wherein the ratio of the mean outer diameter of the inspiratory tube to the mean inner diameter of the expiratory tube is between about 0.65 and 0.85.

8. (Currently Amended) The unilimb breathing circuit of claim 7 wherein the ratio of the mean outer diameter of the inspiratory tube to the mean inner diameter of the expiratory tube is between about 0.70 and 0.80.

9. (Currently Amended) The unilimb breathing circuit of claim 5 wherein the ratio of the mean outer diameter of the inspiratory tube to the mean inner diameter of the expiratory tube is about 0.75.

10. (Currently Amended) The unilimb breathing circuit of claim 7 wherein the size difference between the mean outer diameter of the inspiratory tube and the mean inner diameter of the expiratory tube is between about 0.25 and 0.29 inches.

11. (Currently Amended) The unilimb breathing circuit of claim 5 wherein flow resistence of the breathing circuit is such that at 60 liters/minute of flow, the pressure drop across the circuit is no more than about 5 cm of water, and the ratio of the mean outer diameter of the inspiratory tube to the mean inner diameter of the expiratory tube is between about 0.65 and 0.85.

12. (Currently Amended) A unilimb breathing circuit comprising

a proximal end coupling member

a distal end coupling member

a pleated outer tube having a first end fixedly coupled to the proximal end coupling member, and a second end fixedly coupled to the distal end coupling member, the outer tube including a series of pleats having a first leg and a second leg, the first and second legs being joined to define a series of peak points, the outer tube pleats being expandable between a fully compressed rest position and a fully expanded rest position, and having a plurality of intermediate rest positions wherein the outer tube is capable of maintaining its rest length without the exertion of an external force, the first and second legs of the outer tube pleats being disposed at a first angle when in the compressed rest position, and at a second angle when in the expanded rest position, and

a pleated inner tube having a first end fixedly coupled to the proximal coupling member, and a second end fixedly coupled to the distal end coupling member, the inner tube including a series of pleats having a first leg and a second leg, the first and second legs being joined to define a series of peak points, the inner tube pleats being expandable between a fully compressed position and a fully expanded position, and having a plurality of intermediate rest positions wherein the inner tube is capable of maintaining its rest length without the exertion of an external force, the first and second legs of the inner tube pleats being disposed at a first angle when in the compressed rest position, and at a second angle when in the expanded rest position,

wherein the second angle of the inner tube pleats is greater than the second angle of the outer tube pleats.

13. (Previously Presented) The unilimb breathing circuit of claim 12 wherein the ratio of the outer diameter of the inner tube to the inner diameter of the outer tube is sized to minimize flow resistence therebetween, while facilitating generally linear compressibility and expandability of the inner and outer tubes.

14. (Previously Presented) The unilimb breathing circuit of claim 13 wherein flow resistence of the breathing circuit is such that at 60 liters/minute of flow, the pressure drop across the circuit is no more than about 5 cm of water, and the ratio of the outer diameter of the inspiratory tube to the inner diameter of the expiratory tube is between about 0.65 and 0.85.

15. (Previously Presented) The unilimb breathing circuit of claim 14 wherein the length of the inner tube is greater than the length of the outer tube.

16. (Previously Presented) The unilimb breathing circuit of claim 15 wherein the length of the inner tube is greater than the length of the outer tube by between about 1 and 7 inches when each of the pleats of the inner and outer tubes are in their fully expanded rest positions.

17. (Previously Presented) The unilimb breathing circuit of claim 16 wherein the distal end coupling member includes an axis containing terminus for receiving the inspiratory tube, the axis of the terminus being radially offset from the axis of the distal end coupling member.

18. (Previously Presented) The unilimb breathing circuit of claim 12 wherein the length of the inner tube is greater than the length of the outer tube.

19. (Previously Presented) The unilimb breathing circuit of claim 12 wherein the length of the inner tube is greater than the length of the outer tube by between about 1 and 7 inches when each of the pleats of the inner and outer tubes are in their fully expanded rest positions.

Please add new Claims 20-22 as follows:

20. (New) The unilimb breathing circuit of Claim 1 wherein the length of the breathing circuit in the fully expanded rest position is at least about three time greater than the length of the breathing circuit in the fully compressed rest position.

21. (New) The unilimb breathing circuit of Claim 1 wherein the length of the breathing circuit in the fully extended rest position is between about three and four times greater than the length of the breathing circuit in its fully compressed rest position.

22. (New) The unilimb breathing circuit of Claim 1 wherein the inspiratory tube and expiratory tube are disposed generally coaxially.